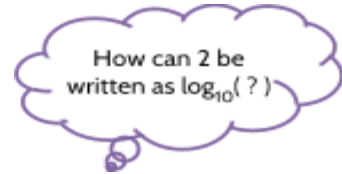


Laws of Logarithms Challenge Worksheet

Write as a single logarithm:



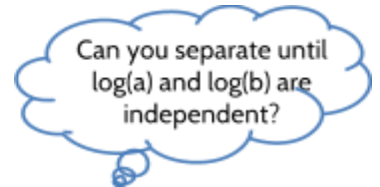
1. $\log a - \log b - \log c$

2. $2 - \log a$

3. $\log_2 b + 3$

4. $\log_5 c - 2 \log_5 b + 2$

5. $2 \log_3 k - 3 - \log_3 p$



If $\log a = 3$ and $\log b = 7$, determine the value of:

1. $\log ab^2$

2. $\log \frac{a}{b}$

3. $\log \frac{a^2}{b}$

4. $\log \frac{10b}{a}$

If $\log 3 = a$ and $\log 5 = b$, determine an expression for the following in terms of a and b :

6. $\log 15$

7. $\log 75$

8. $\log 45$

9. $\log \frac{25}{3}$

If $\log_2 5 = x$ and $\log_2 3 = y$, determine an expression for the following in terms of x and y :

13. $\log_2 20$

14. $\log_2 24$

18. If $\log_3 5 = x$ and $\log_2 36 = y$, determine an expression for $\log_9 5 - \log_2 6$.

19. If $\log_4 25 = a$, determine an expression for $\log_2 25 + \log_{16} 5$.